

Claudio Roncoli

ASSOCIATE PROFESSOR · KU LEUVEN

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VISITING PROFESSOR · AALTO UNIVERSITY

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Research interests

- Modelling and control of traffic systems in presence of automated and connected vehicles
- Integration, management, and optimisation of emerging mobility systems and technologies
- Optimisation of Intelligent Transportation Systems for smart and sustainable mobility
- Traffic flow theory, modelling, and simulation

Professional positions

Associate Professor

CENTRE FOR INDUSTRIAL MANAGEMENT / TRAFFIC AND INFRASTRUCTURE, FACULTY OF ENGINEERING SCIENCE, KU LEUVEN

11/2024 – current
Leuven, Belgium

Visiting Professor

DEPARTMENT OF BUILT ENVIRONMENT, SCHOOL OF ENGINEERING, AALTO UNIVERSITY

10/2024 – current
Espoo, Finland

Associate Professor

DEPARTMENT OF BUILT ENVIRONMENT, SCHOOL OF ENGINEERING, AALTO UNIVERSITY

12/2022 – 10/2024
Espoo, Finland

Visiting Researcher

SCHOOL OF CIVIL ENGINEERING, UNIVERSITY OF SYDNEY

10/2023 – 12/2023
Sydney, Australia

Visiting Scholar

SCHOOL OF CIVIL ENGINEERING, UNIVERSITY OF QUEENSLAND

09/2023 – 10/2023
Brisbane, Australia

Assistant Professor

DEPARTMENT OF BUILT ENVIRONMENT, SCHOOL OF ENGINEERING, AALTO UNIVERSITY

10/2016 – 11/2022
Espoo, Finland

Postdoctoral Research Associate

DYNAMIC SYSTEMS & SIMULATION LABORATORY, TECHNICAL UNIVERSITY OF CRETE

05/2013 – 09/2016
Chania, Greece

Visiting Student

IMT SCHOOL FOR ADVANCED STUDIES

07/2012
Lucca, Italy

Visiting Research Assistant

CENTRE FOR TRANSPORT STUDIES, IMPERIAL COLLEGE LONDON

01 – 07/2011 and 02 – 06/2012
London, UK

Research Assistant/Associate

INDUSTRIAL AUTOMATION LAB / DELAB, UNIVERSITY OF GENOVA

01/2007 – 04/2013
Genova, Italy

Education

Doctoral degree in System monitoring and environmental risk management

UNIVERSITY OF GENOVA

01/2010 – 04/2013
Genova, Italy

Master's degree in Computer Engineering - Production and Services Management

UNIVERSITY OF GENOVA

09/2006 – 07/2009
Genova, Italy

Bachelor's degree in Computer Engineering

UNIVERSITY OF GENOVA

09/2003 – 09/2006
Genova, Italy

Participation in Research Projects

ACUMEN - Ai-aided deCision tool for seamless mUltiModal nEtwork and traffic management FUNDED BY THE EUROPEAN COMMISSION, THROUGH THE HORIZON EUROPE PROGRAMME Coordinator	06/2023 - current
SMARTEDGE - Semantic Low-code Programming Tools for Edge Intelligence FUNDED BY THE EUROPEAN COMMISSION, THROUGH THE HORIZON EUROPE PROGRAMME Project Partner Lead	01/2023 - current
ALCOSTO - Adaptive and Learning Control strategies for Sustainable future Traffic Operations FUNDED BY ACADEMY OF FINLAND Principal Investigator	09/2022 - current
AIForLEssAuto - Artificial Intelligence for Urban Low-Emission Autonomous Traffic FUNDED BY ACADEMY OF FINLAND Subproject Principal Investigator	01/2022 - current
Finest Twins - Smart Cities Centre of Excellence FUNDED BY THE EUROPEAN COMMISSION, THROUGH THE HORIZON 2020 PROGRAMME Smart mobility stream leader	12/2019 – 11/2023
ULTRA - Ubiquitous Localization, communication, and sensing infrastrucTuRe for Autonomous systems FUNDED BY ACADEMY OF FINLAND Subproject Principal Investigator	01/2020 – 12/2022
Profi4 - Competitive funding to strengthen Universities' research profile FUNDED BY ACADEMY OF FINLAND Smart mobility theme Co-Principal Investigator	09/2018 – 08/2022
CMON - Connected Mobility Now FUNDED BY HENRY FORD FOUNDATION FINLAND Co-Principal Investigator	06/2017 – 06/2022
WISE-ACT - Wider Impacts and Scenario Evaluation of Autonomous and Connected Transport FUNDED BY THE EUROPEAN COMMISSION, THROUGH A COST ACTION Working Group leader	10/2019 – 03/2022
FDMM - Future Digital Mobility Management FUNDED BY EIT URBAN MOBILITY Project partner Principal Investigator	01/2021 – 12/2021
TRA2020 - The Transport Research Arena 2020 in Helsinki FUNDED BY THE EUROPEAN COMMISSION, THROUGH THE HORIZON 2020 PROGRAMME Work-package leader	04/2018 – 10/2020
MULSIMCO - Multilevel Traffic Simulation with a Cognitive Basis FUNDED BY ACADEMY OF FINLAND Faculty Investigator	05/2017 – 08/2018
SIMSIG - Traffic simulation for intelligent signal control FUNDED BY RSM LTD Project leader	06/2017 – 05/2018
TRAMAN21 - Traffic Management for the 21st Century FUNDED BY THE EUROPEAN COMMISSION, THROUGH AN ERC ADVANCED GRANT Postdoctoral Research Associate	05/2013 – 02/2018
TIP - Transport Integrated Platform FUNDED BY ENI R&M - SECONDARY LOGISTICS Research assistant / Research associate / Software designer and developer	01/2007 – 04/2013

SECTRAM - Sécurité du transport de marchandises - Sicurezza nel trasporto merci (Safety for the transport of goods)

04/2009 – 03/2012

FUNDED BY THE EUROPEAN COMMISSION UNDER ALCOTRA (2007-2013)

Research assistant

DaGoT - European Reference Framework on Dangerous Goods Transport

01/2007 – 02/2008

FUNDED BY THE EUROPEAN COMMISSION UNDER THE SIXTH FRAMEWORK PROGRAMME

Research assistant

Teaching activities

Director of the Master's programme in Spatial Planning and Transportation Engineering (SPT)

10/2021 – 09/2024

AALTO UNIVERSITY, FINLAND

Deputy Director of the Master's programme in Spatial Planning and Transportation Engineering (SPT)

08/2019 – 09/2021

AALTO UNIVERSITY, FINLAND

Responsible teacher and main instructor for the Transport Modelling course

09/2018 – 02/2024

PART OF THE SPT MASTER'S PROGRAMME - AALTO UNIVERSITY, FINLAND

Responsible teacher and main instructor for the Traffic Flow Theory course

10/2016 – 04/2024

PART OF THE SPT MASTER'S PROGRAMME - AALTO UNIVERSITY, FINLAND

Deputy responsible teacher and co-instructor for the Traffic Management course

10/2016 – 06/2024

PART OF THE SPT MASTER'S PROGRAMME - AALTO UNIVERSITY, FINLAND

Participation in Educational Projects

ENACT - Education network for automated and connected transport for sustainable cities

01/2021 – 07/2023

FUNDED BY FINNISH MINISTRY OF EDUCATION AND CULTURE

Project Partner Principal Investigator

Boost I&E 2.0 - Boosting Innovation and Entrepreneurship Challenge Project 2021

01/2021 – 12/2021

FUNDED BY EIT URBAN MOBILITY KIC

Activity Lead

Boost I&E - Boosting Innovation and Entrepreneurship Challenge Project

01/2020 – 12/2020

FUNDED BY EIT URBAN MOBILITY KIC

Activity Partner Principal Investigator

Editorial and organisational activities

COMMITTEE MEMBERSHIPS

- Member of the Standing Committee on Vehicle-Highway Automation (ACP30) for the Transportation Research Board (TRB) (2022 - current)
- Member of the Technical Committee for the IFAC 7.4: Transportation systems (2017 - current)
- Member of the Technical Committee for the IEEE Emerging Transportation Technology Testing (ET3) (2023 - current)
- Partner Representative of the General Assembly for the European Partnership on Connected, Cooperative & Automated Mobility - CCAM Association (2021 - current)
- Vice-chair of the Programme Committee for the Transport Research Arena (TRA2020)
- Member of the Scientific Committee for the Symposia on Management of Future motorway and urban Traffic Systems (MFTS 2016 - 2024)
- Member of the Technical Program Committee for the IFAC Symposia on Control in Transportation Systems (CTS 2018 - 2024)

- Member of the Technical Program Committee for the IEEE International Conference on Intelligent Transportation Systems (ITSC 2017, 2020 - 2023)
- Member of the Scientific Committee and Permanent Representative for Aalto University for the European Association for Research in Transportation (hEART 2015 - 2024)
- Member of the Scientific Committee for the IEEE International Conference on Models and Technologies for Intelligent Transportation Systems (MT-ITS 2021 - 2023)
- Member of the Scientific Committee for the EURO Working Group on Transportation Meetings (EWGT 2016, 2020)
- Member of the International Program Committee for the IEEE Intelligent Vehicles Symposia (IV 2018 - 2022)
- Member of the International Program Committee for the International Conferences on Vehicle Technology and Intelligent Transport Systems (VEHITS 2015 - 2019)
- Member of the Technical Program Committee for the International Conferences on Advances in Vehicular Systems, Technologies and Applications (VEHICULAR 2017 - 2019)
- Member of the Technical Program Committee for the IEEE International Conference on System of Systems (SoSE 2012)

EDITOR FOR INTERNATIONAL JOURNALS AND CONFERENCES

- Editorial Advisory Board Member for Transportation Research Part C: Emerging Technologies
- Associate Editor for IEEE Transactions on Intelligent Transportation Systems
- Special Issues Editor (Deputy Editor-in-Chief) for IET Intelligent Transport Systems
- Associate Editor for IET Intelligent Transport Systems
- Editor for Proceedings of the Institution of Civil Engineers - Transport
- Review Process Coordinator for TRB Committee on Vehicle-Highway Automation (ACP30)
- Review Editor for Frontiers in Future Transportation
- Principal organiser and Guest Editor of the Special Issue on “Management of Future Motorway and Urban Traffic Systems” within Transportation Research Part C: Emerging Technologies
- Guest Editor of the Special Issue on “Modelling, Learning, and Control of Conventional, Cooperative and Automated Motorway and Urban Traffic Systems” within Transportation Research Part C: Emerging Technologies
- Guest Editor of the Special issue on “Sustainable Development of Intelligent Transportation System and Equipment” within Sustainable Horizons
- Guest Editor of the Special Issue on “Management of Future Motorway and Urban Traffic Systems” within IEEE Transactions on Intelligent Transportation Systems
- Guest Editor of the Special Issue on “Traffic Modelling and Control for Smart, Safe and Green Mobility” within IEEE Open Journal of Intelligent Transportation Systems
- Guest Editor of the Special Issue on “Partially Connected and Automated Traffic Operations in Road Transportation” within Journal of Advanced Transportation
- Guest Editor of the Special issue on “Rethinking transport – towards clean and inclusive mobility” within European Transport Research Review
- Guest Editor of the Special Issue on “Communication, Positioning, and Sensing Solutions for Autonomous Vehicles” within Sensors
- Associate Editor for the IEEE International Conferences on Intelligent Transportation Systems (ITSC)
- Associate Editor for the IFAC Symposia on Control in Transportation Systems (CTS)
- Associate Editor for the IEEE Intelligent Vehicles Symposia (IV)
- Associate Editor for the Forums on Integrated and Sustainable Transportation Systems (Forum ISTS)

EVENT ORGANISATION

- Principal organiser of the 12th Symposium of the European Association for Research in Transportation (hEART 2024)
- Principal organiser of the 1st Symposium on Management of Future motorway and urban Traffic Systems (MFTS 2016)
- Technical programme co-chair of the 8th IEEE International Conference on Models and Technologies for Intelligent Transportation Systems (MT-ITS 2023)
- Member of the Organising Committee for the Transport Research Arena 2020 (TRA2020)
- Co-organiser of the invited session on “Novel methods for modeling and control of mobility and traffic systems” at the 23rd European Control Conference (ECC 2025)
- Organiser of the Breakout session on “Interactive Traffic Management for Highly Automated Vehicles: A Multidis-

- ciplinary Challenge” at the 2023 TRB Annual Automated Road Transportation Symposium (ARTS23)
- Co-organiser of the special session titled “Towards sustainable traffic via trajectory optimisation and control strategies for Connected and Automated vehicles” at the 25th IEEE International Conferences on Intelligent Transportation Systems (ITSC 2022)
 - Organiser of the Breakout session on “Interactive Traffic Management for Highly Automated Vehicles” at the 2022 TRB Annual Automated Road Transportation Symposium (ARTS22)
 - Organiser and moderator of the invited session on “Intelligent Transport Systems” (Nordic Perspective Summit 2020)
 - Organiser and Editor of the special Track on “Freeway Traffic Control” at the 15th IFAC Symposium on Control in Transportation Systems (CTS 2018)
 - Co-organiser of the open invited track on “Traffic modeling, estimation and control” at the 20th World Congress of the International Federation of Automatic Control (IFAC 2017)
 - Co-organiser of the special session on “Recent advances in motorway traffic control” at the 19th IEEE International Conferences on Intelligent Transportation Systems (ITSC 2016)
 - Co-organiser of the invited session on “Management and control of motorway traffic systems” at the 14th IFAC Symposium on Control in Transportation Systems (CTS 2016)
 - Co-organiser of the special session on “Advances in motorway traffic control” at the 18th IEEE International Conferences on Intelligent Transportation Systems (ITSC 2015)
 - Co-organiser of the special session on “Design, modelling, and control of autonomous and cooperative vehicle systems” at the 18th Euro Working Group on Transportation Meeting (EWGT 2015)
 - Co-organiser of the invited session on “Optimal control of motorways” at the 20th Conference of the International Federation of Operational Research Societies (IFORS 2014)

REVIEWER FOR INTERNATIONAL JOURNALS

- Transportation Research Part C: Emerging Technologies
- IEEE Transactions on Intelligent Transportation Systems
- Transportation Research Part B: Methodological
- Transportation Research Part A: Policy and Practice
- Transportation Science
- Transportation Research Record
- IET Intelligent Transport Systems
- Automatica
- IEEE Transactions on Control Systems Technology
- Control Engineering Practice
- Annual Reviews in Control
- IEEE Intelligent Transportation Systems Magazine
- IEEE Control Systems Magazine
- International Journal of Robust and Nonlinear Control
- IEEE Systems Journal
- IEEE Control Systems Letters
- Journal of Advanced Transportation
- Transportmetrica A: Transport Science
- Transportmetrica B: Transport Dynamics
- Transport Policy
- Transportation Letters: The International Journal of Transportation Research
- Journal of Traffic and Transportation Engineering
- EURO Journal on Transportation and Logistics
- Mathematical and Computer Modelling of Dynamical Systems
- Journal of Intelligent Transportation Systems: Technology, Planning, and Operations
- PROMET – Traffic & Transportation
- European Journal of Transport and Infrastructure Research
- International Journal of Sustainable Transportation
- Physica A
- Advances in Mechanical Engineering

REVIEWER FOR INTERNATIONAL CONFERENCES

- IEEE International Conferences on Intelligent Transportation Systems (ITSC)
- IEEE Intelligent Vehicles Symposia (IV)
- IEEE Conferences on Decision and Control (CDC)
- European Control Conferences (ECC)
- IFAC World Congresses (WS)
- IFAC Symposia on Control in Transportation Systems (CTS)
- Transportation Research Board (TRB) Annual Meetings
- Symposia of the European Association for Research in Transportation (hEART)
- EURO Working Group on Transportation Meetings (EWGT)
- International Symposia on Transportation and Traffic Theory (ISTTT)
- international Conferences on Traffic and Granular Flow (TGF)
- International Conferences on Vehicle Technology and Intelligent Transport Systems (VEHITS)
- European Conference on Information Systems (ECIS)
- IEEE International Conferences on System of Systems (SoSE)
- International Conferences on System Theory, Control and Computing (ICSTCC)

Supervision activities

AT AALTO UNIVERSITY

Dr. Iisakki Kosonen, Senior researcher AALTO UNIVERSITY, FINLAND	04/2019 – current
Dr. Murat Bayrak, Postdoctoral researcher AALTO UNIVERSITY, FINLAND	08/2023 – current
Dr. Shaghayegh Vosough, Postdoctoral researcher AALTO UNIVERSITY, FINLAND	03/2021 – current
Dr. Charalampos Sipetas, Postdoctoral researcher AALTO UNIVERSITY, FINLAND	01/2021 – current
Ms. Liva Westerback, PhD student AALTO UNIVERSITY, FINLAND	11/2023 – current
Ms. Heqi Wang, PhD student AALTO UNIVERSITY, FINLAND	03/2023 – current
Mr. Yuanxiang Yang, PhD student AALTO UNIVERSITY, FINLAND	10/2022 – current
Mr. Muhammad Haris, PhD student AALTO UNIVERSITY, FINLAND	09/2022 – current
Mr. Francesco Vitale, PhD student AALTO UNIVERSITY, FINLAND	01/2020 – current
Ms. Elina Aittoniemi, Part-time PhD student AALTO UNIVERSITY, FINLAND - ALSO AT VTT TECHNICAL RESEARCH CENTRE OF FINLAND	11/2018 – current
Mr. Serio Agriesti, PhD student AALTO UNIVERSITY, FINLAND	03/2020 – 10/2024
Mr. Ze Zhou, PhD student AALTO UNIVERSITY, FINLAND	04/2019 – 10/2024
Mr. Roozbeh Mohammadi, PhD student AALTO UNIVERSITY, FINLAND	02/2018 – 08/2023
Mr. Farzam Tajdari, Part-time PhD student AALTO UNIVERSITY, FINLAND	10/2017 – 01/2023

Dr. Ramin Niroumand, Postdoctoral researcher AALTO UNIVERSITY, FINLAND	08/2023 – 08/2024
Dr. Weiming Zhao, Postdoctoral researcher AALTO UNIVERSITY, FINLAND	11/2019 – 09/2022
Dr. Cafer Avci, Postdoctoral researcher AALTO UNIVERSITY, FINLAND	06/2019 – 06/2022
Dr. Yu Han, Postdoctoral researcher AALTO UNIVERSITY, FINLAND	09/2017 – 10/2017
Mr. Jingfeng Ma, PhD student SOUTHEAST UNIVERSITY, CHINA	12/2022 – 12/2023
Ms. Haizhen Li, PhD student CHANG'AN UNIVERSITY, CHINA	03/2021 – 03/2022
Mr. Mohammad Karimi, PhD student CONCORDIA UNIVERSITY, CANADA - WITH PROF. CIPRIAN ALECSANDRU	08/2017 – 06/2020
Ms. Oxana Ivanova, MSc student AALTO UNIVERSITY, FINLAND	11/2024 – current
Mr. Héctor Del Pino Verona, MSc student AALTO UNIVERSITY, FINLAND - ALSO AT UNIVERSITAT POLITÈCNICA DE VALÈNCIA, SPAIN	09/2019 – 01/2020
Mr. Germán R. Pardo González, Summer intern AALTO UNIVERSITY, FINLAND - ALSO AT LONDON SCHOOL OF ECONOMICS, UK	06/2024 – 08/2024
Ms. Olena Vol, Summer intern AALTO UNIVERSITY, FINLAND - ALSO AT UNIVERSITÉ PARIS 1 PANTHÉON-SORBONNE, FRANCE	06/2022 – 08/2022
Mr. Petr Anashin, Summer intern AALTO UNIVERSITY, FINLAND - ALSO AT UNIVERSITY OF TARTU, ESTONIA	06/2022 – 08/2022
Mr. Petr Hajduk, MSc student AALTO UNIVERSITY, FINLAND - ALSO AT VTT TECHNICAL RESEARCH CENTRE OF FINLAND	01/2018 – 12/2018
AT TECHNICAL UNIVERSITY OF CRETE	
Ms. Maria Kontorinaki, PhD student TECHNICAL UNIVERSITY OF CRETE, GREECE - WITH PROF. MARKOS PAPAGEORGIOU	09/2017 – 09/2017
Ms. Georgia R. Iordanidou, PhD student TECHNICAL UNIVERSITY OF CRETE, GREECE - WITH PROF. IOANNIS PAPAMICHAIL	06/2013 – 03/2017
Ms. Sofia Papadopoulou, MSc student TECHNICAL UNIVERSITY OF CRETE, GREECE - WITH PROF. MARKOS PAPAGEORGIOU	01/2016 – 03/2017
Ms. Georgia Perraki, MSc student TECHNICAL UNIVERSITY OF CRETE, GREECE - WITH PROF. IOANNIS PAPAMICHAIL	03/2015 – 11/2016
Mr. Markos Fountoulakis, MSc student TECHNICAL UNIVERSITY OF CRETE, GREECE - WITH PROF. MARKOS PAPAGEORGIOU	03/2015 – 07/2016
Ms. Cecilia Pasquale, PhD student UNIVERSITY OF GENOVA, ITALY - WITH PROF. SIMONA SACONE	05/2014 – 07/2014
AT UNIVERSITY OF GENOVA	
Mr. Haitam Laarabi, PhD student UNIVERSITY OF GENOVA, ITALY - WITH PROF. ROBERTO SACILE	07/2012 – 04/2013

Invited presentations

Network-wide motorway traffic control in presence of Vehicle Automation and Communication Systems UNIVERSITY OF CALIFORNIA LOS ANGELES, USA IPAM Workshop on Traffic Control, Part of the long program “New directions in mathematical approaches for traffic flow management”	26/10/2015
Traffic management in the era of Vehicle Automation and Communications Systems and Smart Infrastructure UNIVERSITY OF GLASGOW, UK Invited lecture	09/12/2015
Multilane traffic control in the presence of automated and connected vehicles UNIVERSITY OF LUXEMBOURG, LUXEMBOURG Workshop on Smart Mobility	01/06/2017
Integrated control of motorway bottlenecks via flow metering and lane assignment TECHNICAL UNIVERSITY OF CRETE, GREECE Invited seminar	12/09/2018
Traffic management for CAVs: Influence on traffic characteristics and control strategies BEIJING UNIVERSITY OF TECHNOLOGY, CHINA Invited seminar	28/05/2019
User-based signal timing in a connected vehicle environment ZHEJIANG UNIVERSITY, CHINA Invited seminar	31/05/2019
Feedback-based integrated lane-based control with Connected and Automated Vehicles UNIVERSITY OF CANTERBURY, NEW ZEALAND Invited seminar	06/11/2019
Data-driven traffic flow estimation at intersections in a partially connected environment IEEE INTELLIGENT TRANSPORTATION SYSTEM CONFERENCE 2020, GREECE Workshop on Traffic Management for Future Mobility: CAVs in a Mixed Traffic Environment	20/09/2020
Traffic Management in the era of Connectivity and Automation TU DRESDEN, GERMANY Invited lecture	08/10/2020
Online set-point estimation for motorway traffic control with connected and automated vehicles UNIVERSITY OF CYPRUS, CYPRUS Invited seminar	26/10/2022
Integration of large-scale activity-based and traffic assignment models: Calibration and equilibrium QUEENSLAND UNIVERSITY OF TECHNOLOGY, AUSTRALIA Invited seminar	18/10/2023
Connected and Automated Driving: Obstacle avoidance and cooperative decentralised routing UNIVERSITY OF QUEENSLAND, AUSTRALIA Invited seminar	23/10/2023
Connected and Automated Driving: Decentralised signal-free intersection management and cooperative routing UNIVERSITY OF SYDNEY, AUSTRALIA Invited seminar	03/11/2023

Dynamic ridesharing: Considering traffic congestion effects and fair pricing in matching and routing

13/11/2023

UNIVERSITY OF NEW SOUTH WALES, AUSTRALIA

Invited seminar

Matching and routing in Dynamic Ridesharing: Addressing traffic congestion and fair pricing

21/03/2024

TU DELFT, THE NETHERLANDS

Invited webinar

Invited external examiner

PhD degree examination

11/2024

UNIVERSITY OF TARTU, ESTONIA

PhD degree examination

05/2024

TECHNION – ISRAEL INSTITUTE OF TECHNOLOGY, ISRAEL

PhD degree examination

05/2024

TRINITY COLLEGE DUBLIN, IRELAND

PhD degree examination

12/2022

TECHNICAL UNIVERSITY OF CRETE, GREECE

PhD entry examination

12/2020

SWISS FEDERAL INSTITUTE OF TECHNOLOGY IN ZURICH (ETH), SWITZERLAND

PhD degree examination

07/2019

TECHNICAL UNIVERSITY OF CRETE, GREECE

PhD degree examination

09/2017

TECHNICAL UNIVERSITY OF CRETE, GREECE

PhD degree examination

03/2017

TECHNICAL UNIVERSITY OF CRETE, GREECE

2 MSc degree theses

02/2017

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE (EPFL), SWITZERLAND

Research evaluation

- Evaluator of research proposals for California METRANS Transportation Center
- Evaluator of research proposals for the Netherlands Organisation for Scientific Research (NWO), domain Applied and Engineering Sciences
- Evaluator of research proposals for the Luxembourg national research fund (FNR)
- Evaluator of research proposals for the Research Grants Council (RGC) of Hong Kong
- Evaluator of research proposals for the Swiss National Science Foundation (SNSF)
- Evaluator of grant proposals for the National Science Center (NCN) of Poland
- External Expert in the evaluation of COST Action proposals, for the European Commission

Recognitions and awards

- The paper by Roncoli, C., Papageorgiou, M., Papamichail, M., titled “Traffic flow optimisation in presence of vehicle automation and communication systems - Part II: Optimal control for multi-lane motorways”, was listed among the “Most Cited Transportation Research Part C: Emerging Technologies Articles” during 2015-2018.
- The paper by Spiliopoulou, A., Perraki, G., Papageorgiou, M., Roncoli, C., titled “Exploitation of ACC systems towards improved traffic flow efficiency on motorways”, which was presented by A. Spiliopoulou at the 5th IEEE International Conference on Models and Technologies for Intelligent Transportation Systems (MT-ITS 2017), Naples, Italy, June 26-28, 2017, received the “Best Paper Presented by a Woman award”.

- The paper by Bekiaris-Liberis, N., Roncoli, C., Papageorgiou, M., titled “Highway Traffic State Estimation With Mixed Connected and Conventional Vehicles”, received the 2019 “George N. Saridis Best Transactions Paper Award” for Outstanding Research.
- The paper by Zhou, Z., Roncoli, C., titled “A fairness-aware joint pricing and matching framework for dynamic ridesharing”, which was presented by Z. Zhou at the 8th IEEE International Conference on Models and Technologies for Intelligent Transportation Systems (MT-ITS 2023), Nice, France, June 14-16, 2023, received the “Best Paper award”.

Personal information

- Nationality: Italian
- Date of birth: 30/10/1984
- Languages: Italian (mother tongue), English (fluently), French (basic), Greek (basic)

ARTICLES IN INTERNATIONAL JOURNALS

1. Roncoli, C., Bersani, C., and Sacile, R. A risk-based system of systems approach to control the transport flows of dangerous goods by road. *IEEE Systems Journal*, 7(4):561–570, 2013. DOI: 10.1109/JSYST.2012.2212652.
2. Iordanidou, G.-R., Roncoli, C., Papamichail, I., and Papageorgiou, M. Feedback-based mainstream traffic flow control for multiple bottlenecks on motorways. *IEEE Transactions on Intelligent Transportation Systems*, 16(2):1–12, 2014. DOI: 10.1109/TITS.2014.2331985.
3. Pasquale, C., Papamichail, I., Roncoli, C., Sacone, S., Siri, S., and Papageorgiou, M. Two-class freeway traffic regulation to reduce congestion and emissions via nonlinear optimal control. *Transportation Research Part C: Emerging Technologies*, 55(1):85–99, 2015. DOI: 10.1016/j.trc.2015.01.013.
4. Roncoli, C., Papageorgiou, M., and Papamichail, I. Traffic flow optimisation in presence of vehicle automation and communication systems – Part I: A first-order multi-lane model for motorway traffic. *Transportation Research Part C: Emerging Technologies*, 57:241–259, 2015. DOI: 10.1016/j.trc.2015.06.014.
5. Roncoli, C., Papageorgiou, M., and Papamichail, I. Traffic flow optimisation in presence of vehicle automation and communication systems – Part II: Optimal control for multi-lane motorways. *Transportation Research Part C: Emerging Technologies*, 57:260–275, 2015. DOI: 10.1016/j.trc.2015.05.011.
6. Roncoli, C., Papamichail, I., and Papageorgiou, M. Hierarchical model predictive control for multi-lane motorways in presence of Vehicle Automation and Communication Systems. *Transportation Research Part C: Emerging Technologies*, 62:117–132, 2016. DOI: 10.1016/j.trc.2015.11.008.
7. Bekiaris-Liberis, N., Roncoli, C., and Papageorgiou, M. Highway traffic state estimation with mixed connected and conventional vehicles. *IEEE Transactions on Intelligent Transportation Systems*, 17(12):3484–3497, 2016. DOI: 10.1109/TITS.2016.2552639.
8. Roncoli, C., Bekiaris-Liberis, N., and Papageorgiou, M. Use of speed measurements for highway traffic state estimation: Case studies on NGSIM data and highway A20, Netherlands. *Transportation Research Record: Journal of the Transportation Research Board*, 2559(1):90–100, 2016. DOI: 10.3141/2559-11.
9. Han, Y., Hegyi, A., Yuan, Y., Hoogendoorn, S., Papageorgiou, M., and Roncoli, C. Resolving freeway jam waves by discrete first-order model-based predictive control of variable speed limits. *Transportation Research Part C: Emerging Technologies*, 77:405–420, 2017. DOI: 10.1016/j.trc.2017.02.009.
10. Fountoulakis, M., Bekiaris-Liberis, N., Roncoli, C., Papamichail, I., and Papageorgiou, M. Highway traffic state estimation with mixed connected and conventional vehicles: Microscopic simulation-based testing. *Transportation Research Part C: Emerging Technologies*, 78:13–33, 2017. DOI: 10.1016/j.trc.2017.02.015.
11. Roncoli, C., Bekiaris-liberis, N., and Papageorgiou, M. Lane-changing feedback control for efficient lane assignment at motorway bottlenecks. *Transportation Research Record: Journal of the Transportation Research Board*, 2625:20–31, 2017. DOI: 10.3141/2625-03.
12. Iordanidou, G.-R., Papamichail, I., Roncoli, C., and Papageorgiou, M. Feedback-based integrated motorway traffic flow control with delay balancing. *IEEE Transactions on Intelligent Transportation Systems*, 18(9): 2319–2329, 2017. DOI: 10.1109/TITS.2016.2636302.
13. Bekiaris-Liberis, N., Roncoli, C., and Papageorgiou, M. Highway traffic state estimation per lane in the presence of connected vehicles. *Transportation Research Part B: Methodological*, 106:1–28, 2017. DOI: 10.1016/j.trb.2017.11.001.
14. Kontorinaki, M., Spiliopoulou, A., Roncoli, C., and Papageorgiou, M. First-order traffic flow models incorporating capacity drop: Overview and real-data validation. *Transportation Research Part B: Methodological*, 106: 52–75, 2017. DOI: 10.1016/j.trb.2017.10.014.
15. Papadopoulou, S., Roncoli, C., Bekiaris-Liberis, N., Papamichail, I., and Papageorgiou, M. Microscopic simulation-based validation of a per-lane traffic state estimation scheme for highways with

- connected vehicles. *Transportation Research Part C: Emerging Technologies*, 86:441–452, 2018. DOI: 10.1016/j.trc.2017.11.012.
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